

5-74

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

PTO/SB/68 (07-03)
Approved for use through 7/31/2003. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

REQUEST FOR ACCESS TO AN ABANDONED APPLICATION UNDER 37 CFR 1.14

Bring completed form to:
File Information Unit
Crystal Plaza Three, Room 1D01
2021 South Clark Place
Arlington, VA
Telephone: (703) 308-2733

RECEIVED

MAY 14 2004

File Information Unit

In re Application of

Application Number

Filed

Paper No.

I hereby request access under 37 CFR 1.14(a)(1)(iv) to the application file record of the above-identified ABANDONED application, which is identified in, or to which a benefit is claimed, in the following document (as shown in the attachment):

United States Patent Application Publication No. _____, page, _____ line _____.

United States Patent Number 6582903, column _____, line, _____ or _____.

WIPO Pub. No. _____, page _____, line _____.

Related Information about Access to Pending Applications (37 CFR 1.14):

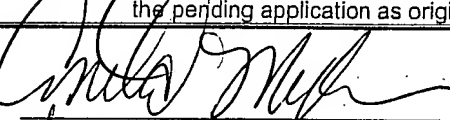
Direct access to pending applications is not available to the public but copies may be available and may be purchased from the Office of Public Records upon payment of the appropriate fee (37 CFR 1.19(b)), as follows:

For published applications that are still pending, a member of the public may obtain a copy of:

- the file contents;
- the pending application as originally filed; or
- any document in the file of the pending application.

For unpublished applications that are still pending:

- (1) If the benefit of the pending application is claimed under 35 U.S.C. 119(e), 120, 121, or 365 in another application that has: (a) issued as a U.S. patent, or (b) published as a statutory invention registration, a U.S. patent application publication, or an international patent application publication in accordance with PCT Article 21(2), a member of the public may obtain a copy of:
 - the file contents;
 - the pending application as originally filed; or
 - any document in the file of the pending application.
- (2) If the application is incorporated by reference or otherwise identified in a U.S. patent, a statutory invention registration, a U.S. patent application publication, or an international patent application publication in accordance with PCT Article 21(2), a member of the public may obtain a copy of:
 - the pending application as originally filed.



Anita Myles
Typed or printed name

5/14/04

Date

Registration Number, if applicable:
(703) 415-4630

Telephone Number

RECEIVED

Approved by

MAY 14 2004

(Initials)

Unit File Information Unit

This collection of information is required by 37 CFR 1.14. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. BRING TO: File Information Unit, Crystal Plaza Three, Room 1D01, 2021 South Clark Place, Arlington, VA.



US006582903B1

(12) **United States Patent**
Rigler et al.

(10) **Patent No.: US 6,582,903 B1**
(45) **Date of Patent: Jun. 24, 2003**

(54) **METHOD AND A DEVICE FOR THE
EVALUATION OF BIOPOLYMER FITNESS**

(75) **Inventors:** Rudolf Rigler, Gottingen (DE);
Manfred Eigen, Gottingen (DE);
Karsten Henso, Erkrath (DE); Ulo
Mets, Tallin (EE); Jerker Widengren,
Solna (SE); Michael Stuke, Gottingen
(DE); Michael Brinkmeyer, Gottingen
(DE); Wolfgang Simm, Rosdorf (DE);
Olaf Lehmann, Gottingen (DE)

(73) **Assignee:** Evotec OAI AG, Hamburg (DE)

(*) **Notice:** Subject to any disclaimer, the term of this
patent is extended or adjusted under 35
U.S.C. 154(b) by 0 days.

(21) **Appl. No.:** 09/021,410

(22) **Filed:** Feb. 10, 1998

Related U.S. Application Data

(62) **Division of application No:** 08/491,888, filed as application
No. PCT/EP93/01291 on May 22, 1993.

(30) Foreign Application Priority Data

Jan. 18, 1993 (DE) 43 01 005
Dec. 15, 1993 (DE) 43 42 703

(51) **Int. Cl.⁷** G01N 33/543

(52) **U.S. Cl.** 435/6; 356/36; 356/302;
356/306; 356/311; 356/319; 356/320; 356/335;
422/55; 422/58; 422/99; 435/7.1; 435/287.1;
435/287.2; 435/288.7; 435/808; 436/517;
436/518; 436/805; 436/34; 436/43

(58) **Field of Search** 435/6, 7.1, 287.1,
435/287.2, 288.7, 808; 436/501, 517, 518,
34, 43, 805; 422/55, 58, 99, 129, 186; 356/36,
302, 306, 311, 319, 320, 335

(56) References Cited

U.S. PATENT DOCUMENTS

3,872,312 A * 3/1975 Hirschfeld 250/458

4,405,237 A 9/1983 Manuccia et al.
5,223,408 A 6/1993 Goeddel et al.
5,252,743 A * 10/1993 Barrett et al. 548/303
5,381,224 A * 1/1995 Dixon et al. 356/72
5,608,519 A * 3/1997 Gourley et al. 356/318
5,720,928 A * 2/1998 Schwartz 422/186
5,760,951 A * 6/1998 Dixon et al. 359/385

FOREIGN PATENT DOCUMENTS

EP 0 245 206 4/1987
EP 0 319 815 11/1988
EP 0 501 688 2/1992
WO WO9201513 2/1992

OTHER PUBLICATIONS

Eigen et al. Sorting single molecules: application to diag-
nostics and evolutionary biology. PNAS-USA.
91:5740-5747, Jun. 1994.*

Meyer et al. Particle counting by fluorescence correlation
spectroscopy. Biophys. J. 54:983-993, Dec. 1988.*

Thompson et al. Immunoglobulin surface-binding kinetics
studied by total internal reflection with fluorescence cor-
relation spectroscopy. Biophys. J. 43:103-114, Jul. 1983.*

Kask et al. Fluorescence correlation spectroscopy in the
nanosecond range: photon antibunching in dye fluorescence.
Eur. Biophys. J. 12:163-166, Feb. 26, 1985.*

(List continued on next page.)

Primary Examiner—Christopher L. Chin

(74) **Attorney, Agent, or Firm**—Jacobson Holman PLLC

(57) ABSTRACT

A method for identifying one or a small number of
molecules, especially in a dilution of $\leq 1 \mu\text{M}$, using laser
excited FCS with measuring times ≤ 500 ms and short
diffusion paths of the molecules to be analyzed, wherein the
measurement is performed in small volume units of prefer-
ably $\leq 10^{-14}$ l, by determining material-specific parameters
which are determined by luminescence measurements of
molecules to be examined.

115 Claims, 32 Drawing Sheets

228 - Determination of the fitness of a polymer

